

“Prodromus Ornithologiæ Papuasæ et Moluccarum,” Nos. i.—xv., auctore Thoma Salvátorio. From the author.

“Journal of Conchology,” Vol. II., Nos. 1 to 12, Vol. III., Nos. 1 to 10; January 1879 to April 1882, with Reprints of Articles on the life history of *Helix arbustorum* and the Mollusca of Bristol and Beverley Districts. From the Conchological Society of Great Britain and Ireland.

“Bulletin de la Société Impériale des Naturalistes de Moscou.” No. 4, 1881, and “Table Générale et Systematique des Matieres contenues dans les premiers 56 volumes (années 1829-1881) du Bulletin de la Société.” From the Society.

“Bulletin de la Société Zoologique de France,” Tomes I.—VI. complete, Tome VII., Livr. 1 and 2. From the Society.

PAPERS READ.

ON A NEW AND REMARKABLE FISH OF THE FAMILY *Mugilidæ*
FROM THE INTERIOR OF NEW GUINEA.

BY W. MACLEAY, F.L.S. &c.

Among a large variety of Fishes, both saltwater and fresh, lately brought from New Guinea by Mr. Alex Goldie, is one so abnormal in some respects that I may be excused if I make it the subject of a special paper, leaving the rest of the collection for my “Fourth contribution to a knowledge of the fishes of New Guinea” which I hope to be able to lay before you in the course of a few weeks. The fish in question is undoubtedly of the family *Mugilidæ*, and in fact might almost be included in the genus *Agonostoma*, were it not for a structure of mouth unknown as I believe among fishes. In most teleosteous fishes, at all events in this family, the gill openings are large, and what may be termed

the gill covers extend quite to the symphysis of the lower jaw, leaving a more or less open space on the chin, composed of the integuments surrounding the extremity of the hyoid arch, and forming the floor of the mouth. Of this general form there are modifications in many families of fishes, but I have never before known such a complete departure from the normal type as in the present instance.

Through the kindness of Mr. Haswell, who has made the preparations and drawings for me, I am enabled to illustrate this paper with two woodcuts, which will explain better than any description the peculiarities of the fish. Fig. 1 represents the

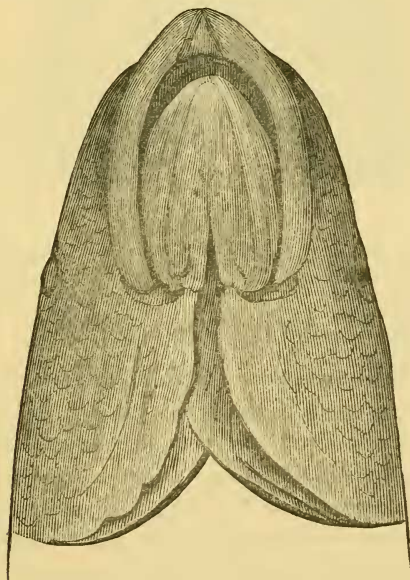


FIG. 1.

under side of the head in the natural state, and Fig. 2 the same with some of the integuments removed and showing the bones. Mr. Haswell has also made for me a good preparation for

comparison, of the mouth, &c., of *Mugil Waigiensis*, which may be taken as a good type of the *Mugilidæ*.

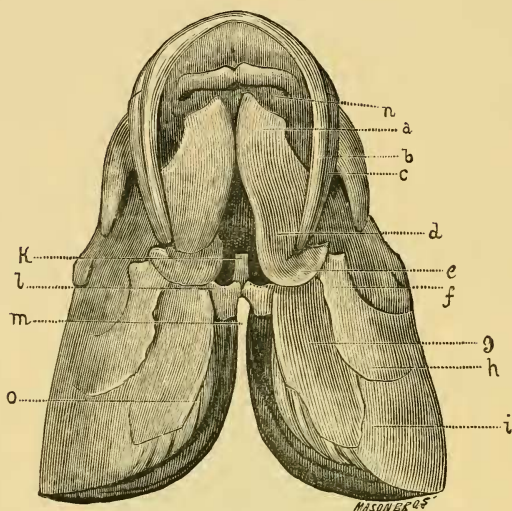


FIG. 2.

- | | |
|------------------------|--------------------|
| a—Dentary of mandible. | h—Pre-operculum. |
| b—Premaxilla. | i—Suboperculum. |
| c—Maxilla. | k—Glossohyal. |
| d—Angular | l—Basihyal. |
| e—Articular | m—Urohyal. |
| f—Quadrate. | n—Vomer. |
| g—Interoperculum. | o—Branchiostegals. |

The chief and most obvious peculiarity of the fish I am describing is undoubtedly the well marked division across the under surface of the head, from the extremity of the ramus of the mandible on one side to that of the other (shown in Fig. 1), a division, however, which though deep and well defined, is only external, and has no communication whatever with the mouth. An examination of the bones of the head (Fig. 2), shows however that notwithstanding the very abnormal external appearance, the actual divergence from the typical fish skull is less than might have been anticipated, and in fact is not so much a divergence from the type as a variation of it.

The hyoid bones are the least normal; the urohyal (fig 2 *m*) is slight; the basihyal (fig 2 *b*) short; and the glossohyal (fig 2 *k*) very small and slightly longer than broad; the most advanced of these bones, the glessohyal, reaches only to the transverse division at the base of the mandibles, whereas in *Mugil Waigiensis* the basihyal and glossohyal bones are large and prominent, supporting the whole floor of the mouth, and extending almost to the symphysis of the lower jaw. In *Mugil Waigiensis* also the mandibular bones are of a slighter make. I propose for this fish which differs considerably in other points than those I have now mentioned from any of the genera of *Mugilidae* hitherto described, the generic name of

AESCHRICHTHYS.

Mouth lateral, extending to the line of the orbit; hyoid bones not extending on the floor of the mouth, an external transverse fossa at the base of the mandibles, lips thick, lower lip rounded in front, teeth on the upper jaw only.

AESCHRICHTHYS GOLDIEL.

D. 1/8. A. 3/9. L. LAT. 46. L. TRANS. v. 14.

Height of body about four times in the length, body slightly compressed and convex, head very convex; eye small, without adipose membrane, situated about three of its diameters from the extremity of the snout. Upper lip very thick, extending to the vertical from the posterior third of the eye; the lower lip is narrowly rounded in front, and is edged on each side below by a rigid and grooved margin, which extends as far back as the upper lip, both being there quite separated from the interoperculum, two fleshy caruncles free at the extremity intervene between the mandibular extremities. The teeth in the upper jaw are apparently serrations of the surface of the bone; there are two large osseous lumps on the vomer covered with teeth. The tail is forked, the fins are for the most part blackish, so is the upper part of the head and body, the belly seems to have been yellowish.

Good sized specimens are 18 inches in length.

Mr. Goldie found this fish very abundant in the Goldie River, about 100 miles by its course from its mouth in Redsear Bay, and about 30 miles in a straight line inland from the sea. He and his party used the fish as food for some time and found them excellent, as indeed all the *Mugilidae* are. Very fortunately Mr. Goldie was, at the time he was engaged in collecting these Fishes, short of a sufficient number of other Fish to fill up a cask, and to that circumstance I am indebted for a much larger number of specimens of this Fish, than Mr. Goldie would otherwise have thought of preserving.

ON SOME POINTS IN THE ANATOMY OF THE URO-GENITAL ORGANS
IN FEMALES OF CERTAIN SPECIES OF KANGAROOS.—PART II.

BY J. J. FLETCHER, M.A., B.Sc.

The organs of sixteen females referable to the following species' have been examined :—

Rock Wallaby (<i>Petrogale penicillata</i>)	1 specimen.
Red-necked Wallaby (<i>Halmaturus ruficollis</i>),	2 specimens.
Wallaroo (<i>Osphranter robustus</i>)	4 specimens.
Red Kangaroo (<i>O. rufus</i>)	2 specimens.
Dorsal-striped Wallaby (<i>H. dorsalis</i>)	2 specimens.
Black-tailed Wallaby (<i>H. ualabatus</i>)	1 specimen.
Grey Kangaroo (<i>Macropus major</i>)	4 specimens.

From fourteen of these specimens, sections were carefully cut, commencing at the last half-inch of the median vagina, and continuing until the appearance of the meatus urinarius. In none of the sixteen specimens is there a direct communication between the median vaginal and the uro-genital chambers, though with the exception of *M. major*, they all belong to species in which the direct communication is known to exist after parturition. This state of things is confirmatory of the view that the direct communication as a rule, is probably completed during pregnancy, or at parturition. But though the direct communication was not met with, there are various shades of approximation to it.